CLAIMS

WHAT IS CLAIMED IS:

1. A composition of matter comprising a propellant for gun ammunition surface treated with at least one of an inert or energetic polymer and energetic, monomer softener.

2. The composition of claim 1, wherein the propellant is at least one of mono-, di- and tri-basic propellants for gun ammunition.

3. The composition of claim 2, wherein the propellant comprises at least one of nitrocellulose, a nitric acid ester, an alkyl nitrato ethyl nitramine, NENA nitroguanidine, hexogen, octogen, 3-nitro-1,2,4-triazol-5-one, and hexanitrohexaazaisowurtzitane. CL-20

4. The composition of claim 3, wherein the nitric acid ester is at least one of nitroglycerine, diethylene glycol dinitrate, butane triol trinitrate, metriol trinitrate, and triethylene glycol dinitrate.

5. The composition of claim 1, wherein the polymer is at least one of polyester, polyether, polyurethane, polyurea, polybutadiene, polyamide, and cellulose ester.

6. The composition of claim 1, wherein the polymer comprises at least one of poly-3-nitratomethyl-3-methyl oxetane, polyglycidylnitrate, and glycidylazide polymer.

7. The composition of claim 1, wherein the energetic softener comprises at least one of alkyl nitrato ethyl nitramine, nitric acid ester, bis(2,2-dinitropropyl) acetal, bis(2,2-dinitropropyl) formal, and dinitrodiazaalkane.

8. The composition of claim 7, wherein the alkyl nitrato ethyl nitramine comprises at least one of methyl nitrato ethyl nitramine, ethyl nitrato ethyl nitramine, and butyl nitrato ethyl nitramine.

9. The composition of claim 7, wherein the nitric acid ester comprises at least one of nitroglycerine, diethyl glycol dinitrate, triethylene glycol dinitrate, butane triol trinitrate, and metriol trinitrate.

10. A method for producing a propellant powder for gun ammunition, comprising the step of surface-treating the propellant powder with an agent comprising at least one of inert or energetic polymer and energetic, monomer softener.

11. The method of claim 10, wherein the propellant is at least one of mono-, di- and tri-basic propellants for gun ammunition.

12. The method of claim 11, wherein the propellant comprises at least one of nitrocellulose, a nitric acid ester, an alkyl nitrato ethyl nitramine, nitroguanidine, hexogen, octogen, 3-nitro-1,2,4-triazol-5-one, and hexanitrohexaazaisowurtzitane.

13. The method of claim 12, wherein the nitric acid ester is at least one of nitroglycerine, diethylene glycol dinitrate, butane triol trinitrate, metriol trinitrate, and triethylene glycol dinitrate.

14. The method of claim 10, wherein the polymer is at least one of polyester, polyether, polyurethane, polyurea, polybutadiene, polyamide, and cellulose ester.

15. The method of claim 10, wherein the polymer comprises at least one of poly-3-nitratomethyl-3-methyl oxetane, polyglycidylnitrate, and glycidylazide polymer.

16. The method of claim 10, wherein the energetic softener comprises at least one of alkyl nitrato ethyl nitramine, nitric acid ester, bis(2,2-dinitropropyl) acetal, bis(2,2-dinitropropyl) formal, and dinitrodiazaalkane.

17. The method of claim 16, wherein the alkyl nitrato ethyl nitramine comprises at least one of methyl nitrato ethyl nitramine, ethyl nitrato ethyl nitramine, and butyl nitrato ethyl nitramine.

18. The method of claim 16, wherein the nitric acid ester comprises at least one of nitroglycerine, diethyl glycol dinitrate, triethylene glycol dinitrate, butane triol trinitrate, and metriol trinitrate.

19. The method of claim 10, wherein the surface-treating step comprises the step of applying the agent, as one of a solution and an emulsions; by one of spraying in a rotating drum and incubating in an impregnating solution.

20. The method of claim 10, wherein the polymer components and the energetic, monomer softener components are applied by one of application of a mixture of the two components and through a two-stage, consecutive treatment.

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